



MYOCARDIAL ISCHEMIA AND INFARCTION

THE UTILITY OF ADENOSINE STRESS-REST CARDIAC MAGNETIC RESONANCE IMAGING IN EVALUATING CARDIAC FUNCTION AND PERFUSION IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

ACC Poster Contributions

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Background: In patients with Systemic Lupus Erythematosus (SLE), coronary artery disease is a leading cause of morbidity and mortality. We evaluated coronary artery disease using 64 slice coronary computed tomography angiography (CCTA) and cardiac function using adenosine stress/rest cardiac magnetic resonance imaging (CMRI) in patients with chest pain and SLE.

Methods: Eighteen female patients (age 41.4 ± 10.5 years) with SLE and anginal chest pain within 6 months of the clinic visit were studied. Patients were excluded if they had a prior clinical history of coronary artery disease (CAD). All patients had CCTA and CMRI. CMRI at 1.5 Tesla was performed using 0.05 mmol/kg gadolinium followed by rest perfusion imaging in three short axis slices. CMRI was analyzed using visual semi-quantitative 5 point / 16 segment scoring for evaluation of wall motion, myocardial perfusion and scar. SLE disease activity index (SLEDAI) was calculated based on history, examination, and laboratory data.

Results: The SLEDAI score was zero in 3 patients, 1-5 (mild) in 10 patients; 6-10 (moderate) in 5 patients. Two subjects had mild coronary atherosclerosis (isolated non-calcified plaque in one and coronary calcium score of 5.9 in another) but no patient had significant luminal coronary narrowing. Stress myocardial perfusion was abnormal in 9/18 (50%) patients. All patients had normal cardiac structure and left ventricular function, and no pericardial or pleural effusion. No patient had evidence of myocardial scar.

Conclusions: Among a group of 18 female SLE patients with low to moderate SLE disease activity and symptoms of angina, CMRI perfusion is frequently abnormal, despite a low prevalence of coronary atherosclerosis, no obstructive CAD, and preservation of myocardial structure and function. These findings suggest that anginal chest pain in SLE patients without anatomical or functional cardiac abnormality may be due to ischemia. Further work is needed.